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     (FILE 'HOME' ENTERED AT 13:59:51 ON 22 FEB 2005)

     FILE 'MEDLINE, EMBASE, SCISEARCH, BIOSIS, USPATFULL' ENTERED AT 14:00:08
     ON 22 FEB 2005
L1          5894 S (CAPTURE? OR ISOLAT? OR (SOLID PHASE)) (10P) (HYDROPHIL? (3A)
L2         10149 S (CAPTURE? OR ISOLAT? OR (SOLID PHASE)) (10P) ((HYDROPHIL? OR
L3           214 S L2 (10P) (TRANSITION METAL?)
L4           158 S L3 (10P) (LINK? OR COMPLEX? OR CAPTUR?)
L5            36 S L4 (10P) ?ASSAY?
L6            36 DUP REM L5 (0 DUPLICATES REMOVED)
L7            35 S L6 AND (LABEL? OR MARKER? OR DETECT?)
L8            28 S L7 AND (?ACRYLAMID?)
L9             5 S L7 AND ((ITACONIC ACID) OR (MALEIC ANHYDRIDE))
L10           12 S L7 AND (AGGLUTINAT? OR ELISA)

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L7 ANSWER 15 OF 35 USPATFULL on STN
ACCESSION NUMBER: 2003:190657 USPATFULL
TITLE: Assay method and apparatus
INVENTOR(S): Barnett, Graeme Ross, Shailer Park, AUSTRALIA
Manns, Roy L., Rockland, MA, United States
PATENT ASSIGNEE(S): Panbio Pty Ltd, AUSTRALIA (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6593085	B1	20030715	
	WO 9932885		19990701	
APPLICATION INFO.:	US 2000-582160		20001113	(9)
	WO 1998-AU1038		19981217	

	NUMBER	DATE
PRIORITY INFORMATION:	AU 1997-1034	19971219

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Nguyen, Bao-Thuy L.
LEGAL REPRESENTATIVE: Knobbe, Martens, Olson & Bear, LLP
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 9 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 715
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of assaying for an analyte including the steps of: (i) passing a sample suspected of containing an analyte and reagents comprising a target ligand-analyte receptor conjugate and a **detectable** tracer containing a **label** for the analyte through filter apparatus containing a plurality of discrete flow zones wherein at least one zone functions as a capture zone having bonded thereto a receptor ligand for said target ligand; (ii) allowing the sample and accompanying reagents to incubate prior to passage through said at least one zone to facilitate formation of complex(es) of said conjugate and said at least one analyte in a liquid or fluid phase; and (iii) **detecting** the presence of analyte in the sample by activation of the **label** in said at least one zone after binding of the complex(es) conjugate to the associated receptor ligand(s).

AB . . . of: (i) passing a sample suspected of containing an analyte and reagents comprising a target ligand-analyte receptor conjugate and a **detectable** tracer containing a **label** for the analyte through filter apparatus containing a plurality of discrete flow zones wherein at least one zone functions as. . . formation of complex(es) of said conjugate and said at least one analyte in a liquid or fluid phase; and (iii) **detecting** the presence of analyte in the sample by activation of the **label** in said at least one zone after binding of the complex(es) conjugate to the associated receptor ligand(s).

SUMM . . . for determination of analyte wherein assay apparatus is provided having one or multiple capture zones incorporating a receptor ligand for **detection** of analyte.

SUMM . . . permitted to flow laterally through the zone. Any analyte in the sample is complexed by the affixed binding partner and **detected**. A method of **detection** employs entrapment of observable particles in the complex.

SUMM . . . plurality of zones having a second member for the binding pair immobilized thereon which binds with the first member to **detect** the presence or amount of analyte in the sample.

SUMM . . . having a dry porous carrier. A liquid test sample may be applied to the dry porous carrier which has a **labelled** specific binding reagent for an analyte which reagent is freely movable within the porous carrier when in the moist state and unlabelled

specific binding reagent for the same analyte which is immobilized in a **detection** zone on the porous carrier. The liquid sample may pick up **labelled** reagent and thereafter permeate to the **detection** zone. The **label** used is a particulate direct **label**.

SUMM . . . a first opposable component and a second opposable component wherein at least one of the opposable components comprises capture and **detection** zones and at least one of the opposable components includes an absorber for contacting the other of the opposable components for **detection** of analyte. Each of these references describe capture zones which incorporate specific binding partners for the analyte. U.S. Pat. No.. . .

SUMM . . . flow devices or filter stacks which include one or a plurality of capture zones for direct binding of analyte for **detection** of the analyte.

SUMM (vi) serious limitations apply to processing **detection** of multiple analytes in prior art devices. For example, when **detection** of both multiple specificities of IgG and IgM classes of antibodies is being attempted, it is not possible to use. . .

SUMM . . . mixing a liquid sample suspected of containing an analyte and reagents comprising a target ligand analyte receptor conjugate and a **detectable** tracer containing a **label** for the analyte whereby if the analyte is present, there is formed in solution a complex of analyte coupled to. . .

SUMM (iii) **detecting** the presence of analyte in the sample by activation of the **label** in said at least one zone after binding of the complex to the receptor ligand; and

SUMM . . . step (i) may also be combined with a target ligand-analyte receptor conjugate specific for each analyte being assayed and a **detectable** tracer incorporating a **label** for each analyte. In this embodiment, step (ii) facilitates the activation of each analyte by **detection** of the **label** in each zone after bonding of each complex to its associated receptor ligand.

SUMM The method of the invention may be used for **detection** of a wide variety of different analytes. In this regard, it will be appreciated that the term "analyte" refers to any compound or composition to be **detected** that is capable of binding specifically to a binding agent. Examples of binding agents are antibodies, antigens or chelating agents. . .

SUMM . . . being tested. A convenient form of tracer is an antibody specific for an antigen when the analyte of interest. The **label** may be any conventional **marker** which after binding of the analyte to the tracer provides a **detectable** signal. Examples of **labels** may be a radioactive species, fluorescent species, chemiluminescent species or an enzyme for which a substrate convertible to a coloured product exists such as a peroxidase or alkaline phosphatase. Examples of appropriate tracers or **labels** are referred to in U.S. Pat. No. 5,208,143, which is herein incorporated by reference, or U.S. Pat. No. 5,624,809 supra.

SUMM The preferred **label** in relation to the present invention is colloidal gold which may be conjugated to antibody or paratope thereof or antigen or epitope thereof. Also may be used as **labels** are coloured microparticles, coloured dendrimers or coloured dendrimer type molecules.

SUMM . . . actinides, B, Al, Ga, In, Tl, Li, Na, K, Rb, Cs, Fr and Be, Mg, Ca, Sr, Ba, Ra and **transition metals**. Metal ions immobilized onto solid supports such as membrane filters or microparticles may comprise receptor ligands which will chelate with appropriate coordinating groups on the target ligand. An example of a receptor ligand is iminodiacetic acid **complexed** with Ni.sup.2+ binds with target ligands that have an affinity for Ni.sup.2+ acid, such as polyhistidine.

SUMM In another aspect of the invention, there is provided **assay** apparatus comprising a plurality of discrete flow zones characterized in

that there is provided an incubation zone upstream of one or more **capture** zones which only incorporate immobilized receptor ligand which does not bind directly to analyte in use.

SUMM The **assay** apparatus may comprise a lateral strip as shown hereafter in the illustrated embodiment and thus comprise a plurality of discrete. . .

SUMM Preferably the **assay** apparatus also incorporates a wicking chamber for entrapment of liquids after they have passed through the plurality of discrete zones.

SUMM More suitably, however, the **assay** apparatus may comprise a strip of annular form arranged into each of the discrete zones. Advantageously, there is provided a multiplicity of different **capture** zones with each **capture** zone having immobilized thereto a different receptor ligand which does not bind directly with analyte in use. Preferably each of the **capture** zones is separated from each other by incubation zones.

SUMM . . . of the reagents described above. The mixture of sample and reagents may then flow to an initial zone of the **assay** apparatus before passing though the or each **capture** zone before passing into the wicking chamber.

SUMM The **assay** apparatus of the invention comprises, in a preferred form, a plurality of filter discs preferably spaced by spacer discs wherein. . .

SUMM Typical filter materials comprise **hydrophilic** and liquid permeable **polymers** inclusive of polyvinylidene fluoride, polyamide, polyester cellulose acetate and, nitrocellulose. Use may also be made of fibres formed from polyvinyl. . .

SUMM . . . of the user. The wells are suitably formed from a substantially rigid, water insoluble, fluid-impervious, thermoplastic material chemically unreactive with **assay** reagents and samples. Suitable materials include polyvinyl chloride with or without copolymers, teflon or other fluoropolymers, polyethylene, polystyrene, and the. . .

SUMM . . . silica gel, cellulosic beads, glass fibres, or filter paper. Preferably the wicking material is porous and can be moulded into **complex** sizes and shapes from thermoplastic polymers including light density polyethylene, ultra high molecular weight polyethylene, polypropylene, polyvinylidene fluoride, polytetrafluoroethylene, nylon,. . .

DETD . . . rapid multi-analyte assay as described hereinafter. The assay of FIG. 1 is a three analyte assay and allows the simultaneous **detection** of IgM antibodies and IgG antibodies to an infectious agent as well as **detection** of antigenic component(s) of the infectious agent itself in human blood, serum, saliva, cerebrospinal fluid and other body fluids. It. . .

DETD Immune complexes carried on C1 (anti-IgG, IgG antibody from sample and gold **labelled** antigen) are trapped in filter zone 10c by specific binding of the T1 ligand or molecule on the carrier with. . .

DETD Immune complexes carried on C2 (anti-IgM, IgM antibody from sample and gold **labelled** antigen) are trapped in filter zone 10d by specific binding of the T2 ligand on the carrier with the R2. . .

DETD Immune complexes carried on C3 (anti-antigen, antigen from sample and gold **labelled** anti-antigen antibody) are trapped in filter zone 10e by specific binding of the T3 ligand on the carrier C3 with. . .

DETD Immune complexes carried on C4 (anti-albumin, albumin from sample and gold **labelled** anti-albumin antibody) are trapped in filter zone 10f by specific binding of the T4 ligand on the carrier C4 with. . .

DETD . . . it would be necessary to load the column of filters 67a through 67g with the dendrimer, microparticle or other target **labelled** carrier, antibody, oligonucleotide, etc. before adding the sample, so as to facilitate capture of the analytes from the sample. After sample addition, the other reagents including gold, enzyme or other

labelled detecting agent or tracer is added.

BETD The assay apparatus of the invention has a plurality of uses and may be utilized, for example, as a rapid **detection** test of multiple pathogens and other substances in environmental, food and clinical samples as well as a replacement test for. . .

DETD . . . compounds with molecules of interest such as cell surface receptor molecules, enzymes or antibodies. These molecules of interest may be **labelled** with substances such as enzymes, fluorescent compounds, biotin or other molecules and thus may function as a tracer. Following incubation of the library particles with the **labelled** tracers, the mixture may be added to incubation well 39, 42, 61 or 63.

DETD . . . by performing an enzyme assay for the presence of the tracer, which will result in a colour change of the **labelled** particles. If an encoding system was used during the manufacture of the particle library, it may be possible to decode. . .

DETD . . . the form of linear strip(s), annular strip(s) or filter column(s) together with reagent containers containing target ligand-analyte receptor conjugate(s) and **detectable** tracer(s). Preferably all of the reagents is accommodated in a single reagent container.

DETD . . . could be retested using a second set of reagents in a single bottle containing a mixture of reagents for the **detection** of Dengue virus antigen(s), Japanese encephalitis virus antigen and malaria antigen(s). Patients testing positive for Dengue virus IgM antibody could. . . a single bottle containing a mixture of reagents that differentiated between primary and secondary Dengue virus infection providing for the **detection** of high level IgG antibody and IgM antibody. For all or any of these procedures, a single universal linear or. . .

DETD . . . as urine in relatively large volumes for the presence of low-level analytes, resulting, in greater test sensitivities and probably earlier **detection** of analytes in diseases such as leptospirosis and legionellosis in which pathogen specific antigens are excreted in the urine;

CLM What is claimed is:

. . . for the target ligand and the analyte receptor, which carrier spaces the target ligand from the analyte receptor and a **detectable** tracer containing a **label** for the analyte whereby if the analyte is present, there is formed in solution a complex of analyte coupled to. . . at least one zone functions as a capture zone having bonded thereto a receptor ligand for the target ligand; (iii) **detecting** the presence of analyte in the sample by activation of the **label** in said at least one zone after binding of the complex to the receptor ligand; and (iv) continuing the passage. . .

. . . the target ligand and the analyte receptor, which carrier spaces the target ligand from the analyte receptor; and (ii) a **detectable** tracer containing a **label** for the analyte.

. . . for the target ligand and the analyte receptor, which carrier spaces the target ligand from the analyte receptor; (ii) a **detectable** tracer carrying a **label** for the analyte; (iii) an analyte binding the **label** of the **detectable** tracer and the analyte receptor of the target ligand analyte receptor conjugate; and (iv) a receptor ligand bound to a. . .

. . . passing the mixture comprising the sample and reagents comprising a target ligand-analyte receptor conjugate specific for each analyte and a **detectable** tracer containing a **label** for each analyte through the filter apparatus and step (iii) comprises **detecting** the presence of each analyte by activation of the **label** in each capture zone after bonding of each complex to its associated receptor ligand.

12. The method as claimed in claim 1 wherein the **label** is a binding partner for the analyte incorporating coloured particles,

coloured dendrimers or coloured dendrimeric-type polymers.

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(FILE 'HOME' ENTERED AT 13:09:07 ON 22 FEB 2005)

FILE 'MEDLINE, EMBASE, SCISEARCH, BIOSIS, USPATFULL' ENTERED AT 13:09:27
ON 22 FEB 2005
L1         66825 S (CAPTURE OR (SOLID PHASE?) OR SUBSTRATE?) (10P) ?ACRYLAMID?
L2           792 S L1 (10P) (?ISOPROPYLACRYLAMIDE OR (ISOPROPYL ACRYLAMIDE))
L3         17024 S (CAPTURE OR (SOLID PHASE?) OR SUBSTRATE?) (10P) ((ITACONIC AC
L4        600737 S (CAPTURE OR (SOLID PHASE?) OR SUBSTRATE?) (10P) (METAL? OR ZI
L5            79 S L2 (10P) L3 (10P) L4
L6             3 S L5 (10P) ?ASSAY?
L7             3 DUP REM L6 (0 DUPLICATES REMOVED)
L8             7 S L5 AND ?ASSAY?
L9             3 DUP REM L7 (0 DUPLICATES REMOVED)
L10           53 S L5 AND HYDROPHIL?
L11       398000 S (CAPTURE OR (SOLID PHASE?) OR SUBSTRATE?) (10P) ((TRANSITION
L12           45 S L2 (10P) L3 (10P) L11
L13            6 S L12 AND COVALENT?
L14           28 S L12 AND HYDROPHIL?
L15            4 S L13 AND L14
L16            4 DUP REM L15 (0 DUPLICATES REMOVED)
L17           45 DUP REM L12 (0 DUPLICATES REMOVED)
L18            4 S L12 AND (COVALENT? AND HYDROPHIL?)
L19            4 DUP REM L18 (0 DUPLICATES REMOVED)

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L17· ANSWER 25 OF 45 USPATFULL on STN
ACCESSION NUMBER: 1998:4342 USPATFULL
TITLE: Powdered biocidal compositions
INVENTOR(S): Wellinghoff, Stephen T., San Antonio, TX, United States
Kampa, Joel J., San Antonio, TX, United States
Barlow, Darren E., San Antonio, TX, United States
PATENT ASSIGNEE(S): Southwest Research Institute, San Antonio, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5707739		19980113	
APPLICATION INFO.:	US 1995-465086		19950605	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Le, H. Thi
LEGAL REPRESENTATIVE: Senniger, Powers, Leavitt & Roedel
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 13 Drawing Figure(s); 11 Drawing Page(s)
LINE COUNT: 1726
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A biocidal powder for sustained release of chlorine dioxide includes particles containing chlorite anions, and a hydrophobic core having the particles on a surface thereof, the hydrophobic core containing an acid releasing agent. The particles and the hydrophobic core are substantially free of water, and the particles are capable of releasing chlorine dioxide upon hydrolysis of the acid releasing agent.

DETD Preferred amides for use as the hydrophilic material include formamide, acrylamide-**isopropylacrylamide**, copolymers of formamide and acrylamide-**isopropylacrylamide**, and copolymers of acrylamide, **isopropylacrylamide** or N,N-methylene bisacrylamide and a primary amine or a secondary amine. Such amides can be useful vehicles for film casting. . .

DETD . . . or 2; y is 1 or 2; and z is 1-6. Generally, the above compounds can be solubilized in formamide, **isopropylacrylamide** -acrylamide or other conventional plasticizers.

DETD . . . isopropyl; m is an integer from 1 to 100; and n is 2 or 3. Suitable diluents include formamide or acrylamide-**isopropyl acrylamide**. Oligomeric or polymeric secondary amines converted to acrylamide substituted tertiary amines by Michael reaction with acrylamides are also suitable because. . .

DETD . . . a monomer containing a double bond. Preferred mixed inorganic acid anhydrides contain a phosphorus-oxygen-silicon bond. Preferred anhydrides include copolymers of **maleic anhydride**, methacrylic anhydride, acetic anhydride, propionic anhydride, or succinic anhydride, and vinyl, styrene or an alkene, such as **maleic anhydride**-styrene copolymers, or grafts thereof with olefins such as polypropylenes, polyethylenes, or polystyrenes. Copolymers of acid anhydrides and esters of lactic. . .

DETD . . . can also be incorporated in either the hydrophobic or hydrophilic materials as is known in the art. Generally, formamide and **isopropylacrylamideacrylamide** are acceptable plasticizers.

DETD In forming the chlorine dioxide releasing powder, anhydrous particles, such as anhydrous sodium sulfate, calcium sulfate, **magnesium** sulfate, or a moisture depleted silica gel, can be included in the fluidized bed to form a mixture of chlorite. . .

DETD . . . as shown in FIG 3a. The hydrophobic and hydrophilic layers can be applied by casting the hydrophilic layer onto a **substrate** 20 and then casting the hydrophobic layer onto the hydrophilic layer, as illustrated in FIG. 3a. The multilayered composite or. . .

DETD . . . from the controlled release film, the partitioning of chlorine dioxide between the phases within the container (e.g. gas, liquid and

solid phases) in a reversible (absorbed) or irreversible (reacted) fashion, and the leakage rate of gas from the container. Design of such. . .

L17· ANSWER 36 OF 45 USPATFULL on STN
ACCESSION NUMBER: 90:46437 USPATFULL
TITLE: Crosslinking process
INVENTOR(S): Fourquier, Dominique, La Croix, France
Perronin, Jean, Senlis, France
PATENT ASSIGNEE(S): Societe Chimique des Charbonnages S.A., Paris, France
(non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 4933213		19900612	
APPLICATION INFO.:	US 1987-122879		19871116	(7)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1986-15843	19861114

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Bleutge, John C.
ASSISTANT EXAMINER: Buttner, David
LEGAL REPRESENTATIVE: Millen, White & Zelano
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
LINE COUNT: 815
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a crosslinking process for self-crosslinking copolymers essentially based on (meth)acrylic monomers and is characterized in that, on or before the deposition of a layer containing at least one crosslinking catalyst, a second layer containing at least one self-crosslinking copolymer in suspension or in solution in an aqueous medium or in an organic solvent is applied, and in that these two layers are subjected to a heat treatment such that crosslinking of the layer containing the copolymer is initiated.

The invention is used in the production of molded, impregnated, coated and printed articles, adhesives, binders, finishes, paints and varnishes.

SUMM . . . compounds such as 2,2'-azo-bis-isobutyronitrile, 4,4'-azo-bis-(4-cyano-pentanoic acid), 2,2'-azo-bis-(2,4-dimethylvaleronitrile) or redox systems such as the lauroyl peroxide/acetylacetone or 2,3-butanedione pair, the tertiarylbutyl perpivalate/**cobalt** octoate pair and the benzoyl peroxide/dimethylparatoluidine pair are also used as initiators. The quantities of catalyst used can vary within. . .

SUMM . . . certain monomers which have at least one group capable of reacting, if required, with another monomer, another compound or the **substrate** itself, in order to establish crosslinking. These reactive groups are well known and can, for example, be the groups OH,. . . such monomers, hydroxyalkyl acrylates and methacrylates, such as ethylene glycol monoacrylate, propylene glycol monomethacrylate and butanediol monoacrylate, allyloxyethanol, allyl alcohol, N-(hydroxymethyl)-**acrylamide**, allylamine, dimethylaminoethyl acrylate and methacrylate, diethylaminoethyl acrylate, dimethylaminopentyl acrylate, vinylpyridine, vinylimidazole, 1-vinyl-2-methylimidazole, vinylcarbazole, vinylcaprolactam, vinylpyrrolidone, **acrylamide** and **methacrylamide**, N-(isobutoxymethyl)-**acrylamide**, N-**isopropylacrylamide**, **methylacrylamidoglycollate** methyl ether, acrylic acid, methacrylic acid, senecioic acid, 4-penten-3-oic acid, **itaconic acid**, crolonic acid, allylglycollic acid, 10-undecenoic acid, **maleic anhydride**, citraconic anhydride, vinylsulphonic acid, styrene-parasulphonic acid and acrolein may be mentioned.

SUMM . . . BF.sub.3 /2-methylimidazole and BF.sub.3 /phenol complexes,

triethylenediamine, stannic chloride, aluminium chloride, triphenyltin chloride, dibutyl-tin dilaurate, uranyl nitrate, aluminium acetylacetonate and **cobalt** naphthenate. Products such as 1-vinylimidazole, 1-vinyl-2-methylimidazole and their polymers or copolymers can also be used. It is likewise possible to. . .

SUMM . . . organic, soluble or dispersed pigments or colorants. By way of non-restrictive examples, titanium dioxide, lithopone, barium sulphate, calcium sulphate, basic **lead** silicate, **zinc** chromate, **zinc** oxide, **iron** oxides, **lead** chromate, ultramarine blue, green chromium oxide, molybdenum red and carbon black may be mentioned as inorganic pigments. Still by way. . . the disazo pigment obtained by coupling the tetrazo derivative of one mole of 4,4'-diamino-3,3'-dichloro-diphenyl with 2 moles of N-acetoacetyl-p-chloroaniline, chlorinated **copper** phthalocyanine green and **copper** α- and β-phthalocyanine blues may be mentioned as such pigments. Metal flakes such as aluminium flakes can be used for. . .

SUMM . . . contains at least one self-crosslinking copolymer, these layers being applied separately one after the other in any order to a **substrate** with, if possible, drying between the two applications. Several layers can thus be deposited on a **substrate** in order to obtain "sandwich"-type coatings. In this case, the layers containing the self-crosslinking copolymer(s) are separated in each case. . .

SUMM These coatings can be applied to diverse **substrates** such as metal, wood, glass and plastics. In particular, they can be applied to metallic **substrates** such as steel or aluminium, with or without an undercoat such as primers based on zinc phosphate or resins deposited. . .

CLM What is claimed is:

. . . said copolymer having a weight average molecular mass of between 1000 and 80,000, comprising before or after deposition on a **substrate** selected from the group of glass or metal of a separate layer containing at least one crosslinking catalyst, applying a. . .

. . . ethylenic bond and one or more functional groups is ethylene glycol monoacrylate, propylene glycol monomethacrylate, butanediol monoacrylate, allyloxyethanol, allyl alcohol, N-(hydroxymethyl)-**acrylamide**, allylamine, dimethylaminoethyl acrylate, dimethylaminoethyl, methacrylate, diethylaminoethyl acrylate, dimethylaminopentyl acrylate, vinylpyridine, vinylimidazole, 1-vinyl-2-methylimidazole, vinylcarbazole, vinylcaprolactam, vinylpyrrolidone, **acrylamide**, **methacrylamide**, N-(isobutoxymethyl)-**acrylamide**, N-**isopropylacrylamide** , **methylacrylamidoglycollate** methyl ether, acrylic acid, methacryic acid, senecioic acid, 4-penten-3-oic acid, **itaconic acid**, crotonic acid, allylglycollic acid, 10-undecenoic acid, **maleic anhydride**, citraconic anhydride, vinylsulphonic acid, styrene-parasulphonic acid or acrolein.

11. A process according to claim 1, wherein the cross-linking catalyst is tetrabutylphosphonium bromide, tetraphenylphosphonium bromide; 4-(hydroxymethyl)-imidazole chloride, imidazole or. . . BF.sub.3 /monomethylamine or monoethylamine; a BF.sub.3 /2-methylimidazole or BF.sub.3 /phenol complex; triethylenediamine; triphenyl-tin chloride; dibutyl-tin dilaurate; uranyl nitrate; aluminium acetylacetonate; **cobalt** naphthenate; 1-vinylimidazole, 1-vinyl-2-methylimidazole or polymers or copolymers thereof; a 2-methyl-imidazole/pyromelitic acid or isocyanuric acid complex; or N,N'-dicinnamylidene-1,6-hexanediamine.

15. A process according to claim 1, wherein the **substrate** is a metal.

16. A process according to claim 1, wherein the **substrate** is steel or aluminum.